DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-010394
Date Inspected: 10-Nov-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name:	Liu Fa Wen			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG Crossbeams and components

Summary of Items Observed:

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG CROSS BEAM CB1

This crossbeam has been brought back to the dock in order to allow American Bridge / Fluor (ABF) and Caltrans QA inspectors to perform Ultrasonic Testing (UT) on the Complete Joint Penetration (CJP) corner joints using the “D” scanning pattern described in AWS D1.5 figure 6.7. The purpose for this particular testing method is to detect suspected transverse cracking of the CJP corner joints.

OBG CROSS BEAM CB2

This crossbeam has been brought back to the dock in order to allow American Bridge / Fluor (ABF) and Caltrans QA inspectors to perform Ultrasonic Testing (UT) on the Complete Joint Penetration (CJP) corner joints using the “D” scanning pattern described in AWS D1.5 figure 6.7. The purpose for this particular testing method is to detect suspected transverse cracking of the CJP corner joints.

OBG CROSS BEAM CB3

This crossbeam has been brought back to the dock in order to allow American Bridge / Fluor (ABF) and Caltrans QA inspectors to perform Ultrasonic Testing (UT) on the Complete Joint Penetration (CJP) corner joints using the “D” scanning pattern described in AWS D1.5 figure 6.7. The purpose for this particular testing method is to detect suspected transverse cracking of the CJP corner joints.

OBG CROSS BEAM CB4

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB5

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB6

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB7

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB8

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB9

This QA observed ZPMC qualified welding personnel identified as 066258 perform SMAW welding on weld joint identified as CB202G-024-088. ZPMC QC identified as Mr. Liu Chuan Gang was present to monitor the welding process. The welding parameters as measured using QC’s calibrated instruments appeared to be in general compliance with WPS-B-P-2112.

This QA observed ZPMC qualified welding personnel identified as 067589 perform SMAW welding on weld joint identified as CB202G-021-106. ZPMC QC identified as Mr. Liu Chuan Gang was present to monitor the welding process. The welding parameters as measured using QC’s calibrated instruments appeared to be in general compliance with WPS-B-P-2112.

This QA observed ZPMC qualified welding personnel identified as 037748 perform SMAW welding on weld joint identified as CB202G-022-106. ZPMC QC identified as Mr. Liu Chuan Gang was present to monitor the welding process. The welding parameters as measured using QC’s calibrated instruments appeared to be in general compliance with WPS-B-P-2112.

This QA observed ZPMC qualified welding personnel identified as 066261 perform SMAW welding on weld joint identified as CB202G-023-106. ZPMC QC identified as Mr. Liu Chuan Gang was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-P-2112.

This QA observed ZPMC qualified welding personnel identified as 067942 perform SMAW welding on weld joint identified as CB202G-024-106. ZPMC QC identified as Mr. Liu Chuan Gang was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-P-2112.

This QA observed ZPMC qualified welding personnel identified as 053609 perform FCAW welding on weld joint identified as CB202G-024-165. ZPMC QC identified as Mr. Liu Chuan Gang was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2132.

This QA observed ZPMC qualified welding personnel identified as 058174 perform FCAW welding on weld joint identified as CB202A-009-017. ZPMC QC identified as Mr. Liu Chuan Gang was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2232-Tc-U4b-F.

OBG CROSS BEAM CB10

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB11

During random in process Visual Testing (VT) of crossbeam CB11 this QA observed that the contractors welding personnel appears to have performed 12 vertical weld repairs in a downward progression. The repair welds appeared to exhibit typical visual characteristics of a weld performed in a downward progression. AWS D1. 5 2002 section 4.6.8 specifies "The progression for all passes in the vertical position shall be upward, unless a downward progression is qualified by tests approved by the Engineer". The welds are identified as CB202G-030-029, CB202G-031-021, 023, 025, 036, 038, CB202G-032-021, 032, 038, 040, 042 and FB205-030-030. Additionally, this QA observed between the time of 13:30 and 14:30 ZPMC QC did not monitor and/or inspect the repairs being performed by the welder responsible for the above mentioned weld repairs. Contract special provisions section 8-3.01 specifies "QC inspections shall be provided to ensure continuous inspection when any welding is being performed. Continuous inspection, as a minimum, shall include (1) having QC Inspectors continually present on the shop floor or project site when any welding operation is being performed, and (2) having a QC Inspector within such close proximity of all welders or operators so that inspections by the QC Inspector of each operation, at each welding location, shall not lapse for a period exceeding 30 minutes". This QA informed ZPMC QC CWI identified as Mr. Liu Fa Wen and ABF QA identified as Mr. Wang Wen Bin of the above mentioned issues and that an incident report would be generated. See attached photos for details.

OBG CROSS BEAM CB12

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB13

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB16

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG BAY 5

This QA observed ZPMC qualified welding personnel identified as 205390 perform FCAW welding on traveler rail weld joint identified as 11TR1-026-014. ZPMC QC identified as Mr. Zhong Chong Biao was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2232-Tc-U5-F.

This QA observed ZPMC qualified welding personnel identified as 217185 perform FCAW welding on traveler rail weld joint identified as 11TR1-025-014. ZPMC QC identified as Mr. Zhong Chong Biao was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2232-Tc-U5-F.

This QA observed ZPMC qualified welding personnel identified as 204342 perform FCAW welding on traveler rail weld joint identified as 11TR1-022-014. ZPMC QC identified as Mr. Zhong Chong Biao was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2232-Tc-U5-F.

This QA observed ZPMC qualified welding personnel identified as 215185 perform FCAW welding on traveler rail weld joint identified as 11TR1-027-011. ZPMC QC identified as Mr. Zhong Chong Biao was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2132.

OBG BAY 6

This QA observed ZPMC qualified welding personnel identified as 048659 perform SMAW repair welding on tower strut weld joint identified as WD1-A305-77M-1-2A. ZPMC QC identified as Mr. Zhao Chen Sun was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-485-SMAW-2G (2F)-FCM-repair.

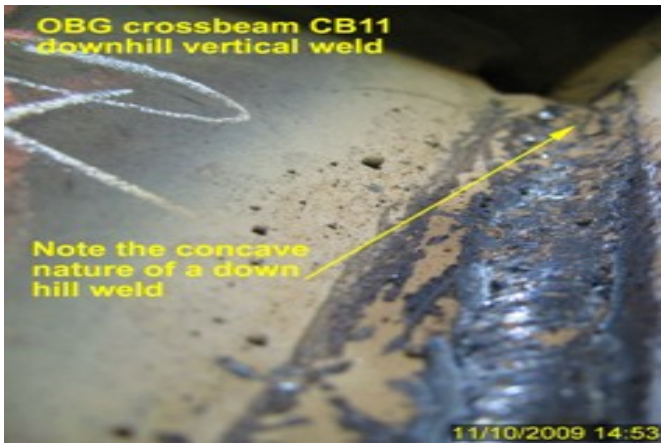
This QA observed ZPMC qualified welding personnel identified as 048617 perform SMAW repair welding on tower strut weld joint identified as WD1-A305-65M-1-2A. ZPMC QC identified as Mr. Zhao Chen Sun was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-485-SMAW-2G (2F)-FCM-repair.

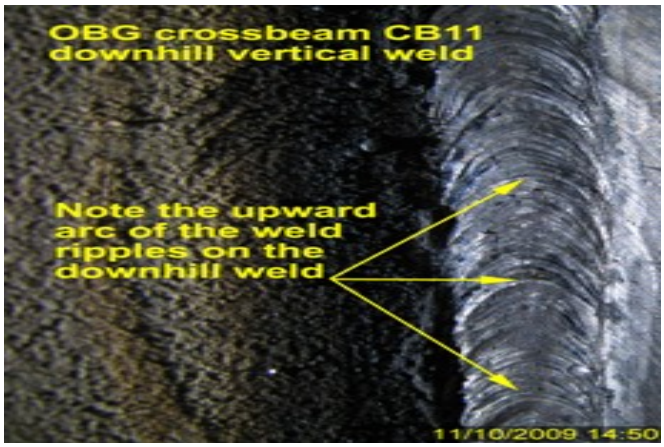
This QA observed ZPMC qualified welding personnel identified as 054467 perform SMAW repair welding on tower strut weld joint identified as WD1-A305-77M-2-8A. ZPMC QC identified as Mr. Zhao Chen Sun was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-485-SMAW-2G (2F)-FCM-repair.

This QA observed ZPMC qualified welding personnel identified as 049769 perform SMAW repair welding on tower strut weld joint identified as WD1-A305-77M-4-2A. ZPMC QC identified as Mr. Zhao Chen Sun was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-485-SMAW-2G (2F)-FCM-repair.

This QA observed ZPMC qualified welding personnel identified as 053753 perform SMAW repair welding on tower strut weld joint identified as WD1-A305-53M-1-9B. ZPMC QC identified as Mr. Zhao Chen Sun was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-345-SMAW-2G (2F)-FCM-repair.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.





Summary of Conversations:

As mentioned above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang (15000422372), who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

(Continued Page 6 of 6)

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Patterson,Rodney	QA Reviewer